

IN THE CLAIMS

Claims 1-13 have previously been canceled without prejudice.

Please amend claims 14 and 16.

Please enter the pending claims as follows:

1.-13. (Canceled)

14. (Currently Amended) An apparatus comprising:

a magnetron, said magnetron capable of generating microwave energy;

a waveguide disposed proximate said magnetron, said waveguide coupled to an input aperture, said waveguide capable of transmitting said microwave energy;

a stirrer disposed proximate said waveguide, said stirrer capable of linear and rotational motion, said stirrer formed of a material that reflects said microwave energy, said stirrer to mix said microwave energy;

a susceptor disposed proximate said stirrer, said susceptor capable of linear motion and rotational motion, said susceptor formed of a material that does not absorb said microwave energy, said susceptor to further mix said microwave energy; and

a self-aligned mechanical joint held by said susceptor, said self-aligned mechanical joint exposed to said microwave energy, said self-aligned mechanical joint comprising:

a bump disposed on a die, said die capable of absorbing said microwave energy, said microwave energy capable of being transformed into heat by molecular excitation; and

a solder alloy disposed on a substrate, ~~wherein~~ said solder alloy reflows capable of reflow by indirect ~~said~~ heat through conduction from said bump ~~upon absorption of said microwave energy by said die.~~

15. (Original) The mechanical joint of claim 14 wherein said microwave energy has variable frequency.

16. (Currently Amended) The mechanical joint of claim 14 wherein said bump ~~reflows~~ is capable of reflow by microwave energy.

17. (Original) The mechanical joint of claim 16 wherein said microwave energy has variable frequency.

18. (Previously Presented) The mechanical joint of claim 14 wherein said bump comprises copper.

19. (Previously Presented) The mechanical joint of claim 14 wherein said bump is electroplated.

20. (Previously Presented) The mechanical joint of claim 14 wherein said bump has a columnar shape.

21. (Previously Presented) The mechanical joint of claim 14 wherein said solder comprises a eutectic solder of lead and tin.

22. (Previously Presented) The mechanical joint of claim 14 wherein said solder comprises a binary alloy of tin and silver.

23. (Previously Presented) The mechanical joint of claim 14 wherein said solder comprises a ternary alloy of tin, copper, and silver.